



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/538,049

06/08/2005

Toshihiko Hijikata

124226

7182

25944 7590 10/26/2007  
OLIFF & BERRIDGE, PLC  
P.O. BOX 320850  
ALEXANDRIA, VA 22320-4850

EXAMINER

GREENE, JASON M

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

10/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/538,049	<b>Applicant(s)</b> HIJIKATA, TOSHIHIKO	
	<b>Examiner</b> Jason M. Greene	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 6-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/8/05;9/4/07</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claims*

1. With regard to claim 6, the Examiner suggests Applicants rewrite the phrase "the predetermined cells" as "predetermined cells" to clarify antecedent basis since the claim does not previously recite predetermined cells.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 6-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohno et al. (US 2004/0033175 A1).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with

37 CFR 1.55. See MPEP § 201.15. The Examiner notes that the 10/362,975 application has a filing date of 6 March 2003.

Ohno et al. discloses a ceramic (silicon carbide) honeycomb filter (10) comprising a plurality of cells (11) functioning as a fluid passage and surrounded by ceramic porous partition walls (12), predetermined cells being plugged at one opening end of each cell, and the remaining cells being plugged at the other opening end of each cell, the partition walls having a catalyst loaded thereon, wherein a value obtained by dividing the cube of porosity (40%) by a mean diameter of all pores (10  $\mu\text{m}$ ) is  $0.64 \times 10^4$ , and a porosity of pores of 100  $\mu\text{m}$  or above in diameter in the partition walls is 4% or less, wherein a partition wall thickness is 14 mil and a cell density is 200 cells/in<sup>2</sup> (see paragraph [0085]) in Figs. 1 and 16, paragraphs [0052] to [0085] and Table 1 on pages 11-12, especially Example 1. Since the partition walls in Example 1 have a mean pore diameter of 10  $\mu\text{m}$  and a standard deviation of pore size distribution of 0.2 very few, if any, of the pores will have a diameter greater than 100  $\mu\text{m}$ .

4. Claims 6-12 are rejected under 35 U.S.C. 102(a) as being anticipated by International Patent Application Publication WO 02/26351 A1.

The Ohno et al. (US 2004/0033175 A1) reference applied above is an English language equivalent of WO 02/26351 A1.

WO 02/23651 A1 teaches the claimed ceramic honeycomb filter for the same reasons noted above in regard to the Ohno et al. reference.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beall et al. (US 6,541,407 B2) in view of Naruse et al. (US 5,914,187).

Beall et al. '407 discloses a ceramic (cordierite) honeycomb filter comprising a plurality of cells functioning as a fluid passage and surrounded by ceramic porous partition walls, predetermined cells being plugged at one opening end of each cell, and the remaining cells being plugged at the other opening end of each cell, wherein a value obtained by dividing the cube of porosity (52.1%) by a mean diameter of all pores (22.5  $\mu\text{m}$ ) is  $0.63 \times 10^4$ , and a porosity of pores of 100  $\mu\text{m}$  or above in diameter in the partition walls is 3.6% (volume of pores greater than 100  $\mu\text{m}$  / pore volume =  $0.0151/0.4143 \times 100\%$ ), wherein a partition wall thickness is 12 mil (0.012 inches) and a cell density is 200 cells/in<sup>2</sup> in col. 3, line 47 to col. 4, line 38, col. 8, lines 49-52 and Table D, especially Inventive Example D2.

Beall et al. '407 does not disclose the partition walls having a catalyst loaded thereon, but Naruse et al. teaches carrying an oxidation catalyst on the partition walls of

Art Unit: 1797

a honeycomb filter to lower the combustion temperature of the collected particulates in col. 7, lines 35-39.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the oxidation catalyst of Naruse et al. into the filter of Beall et al. '407 to lower the combustion temperature of the particulates collected on the partition walls, as suggested by Naruse et al. in col. 7, lines 35-39.

7. Claims 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berg et al. (US 4,364,761) in view of Naruse et al. (US 5,914,187).

Berg et al. discloses a ceramic (cordierite) honeycomb filter (22) comprising a plurality of cells (26,27) functioning as a fluid passage and surrounded by ceramic porous partition walls (24), predetermined cells being plugged at one opening end of each cell, and the remaining cells being plugged at the other opening end of each cell, wherein a value obtained by dividing the cube of porosity (31.2% in Sample 1 or 39.8% in Sample 2, See Table A) by a mean diameter of all pores (9  $\mu\text{m}$  in Sample 1 and 8  $\mu\text{m}$  in Sample 2) is  $0.34 \times 10^4$  in Sample 1 and  $0.79 \times 10^4$  in Sample 2, and a porosity of pores of 100  $\mu\text{m}$  or above in diameter in the partition walls is less than 4% (see all pores are between 0.6 and 35  $\mu\text{m}$ ), wherein a partition wall thickness is 15 mil in Sample 1 and 11 mil in Sample 2 and a cell density is 200 cells/in<sup>2</sup> in Sample 2 in Fig. 2, col. 2, line 11 to col. 4, line 9 and Table A, especially Samples 1 and 2.

Berg et al. does not disclose the partition walls having a catalyst loaded thereon, but Naruse et al. teaches carrying an oxidation catalyst on the partition walls of a

Art Unit: 1797

honeycomb filter to lower the combustion temperature of the collected particulates in col. 7, lines 35-39.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the oxidation catalyst of Naruse et al. into the filter of Berg et al. to lower the combustion temperature of the particulates collected on the partition walls, as suggested by Naruse et al. in col. 7, lines 35-39.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Merkel et al., Beall et al. '089, Noguchi et al., Fukutani et al., Faber et al. and Morimoto et al. references disclose similar honeycomb filters.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene  
Primary Examiner  
Art Unit 1797

  
10/24/07

jmg  
October 24, 2007